

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 10/750,544
Filing Date: December 31, 2003
Title: PROGRAMMABLE VIDEO PROCESSING AND VIDEO STORAGE ARCHITECTURE

Docket: P17420

Amendment to the Claims:

1-30. (Cancelled).

31. (New) A method comprising:

receiving video into a video display device;

placing the device in one of a storage mode and an image processing mode, wherein:

the storage mode is a mode in which the video is to be stored in a memory of the device and/or to be retrieved from the memory for display on a video display of the device, the device to be placed in a storage mode in response to an input from a user of the device to pause or rewind a video displayed on the video display, or to save the video;

placing the device in the storage mode includes downloading microcode into at least one programmable processor in response to the input from the user to cause the at least one programmable processor to store the video into the memory;

the image processing mode is a mode in which the video is not to be stored in the memory and/or the video is not to be displayed on the video display from the memory;

placing the device in the image processing mode includes downloading microcode into the at least one programmable processor to cause the at least one programmable processor to perform enhanced image processing on the video.

32. (New) The method of claim 31, further comprising compressing, using the at least one programmable processor, the video prior to storing the video into the memory when the device is in the storage mode.

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33. (New) The method of claim 31, wherein performing enhanced image processing on the video comprises performing a reduction of at least one of ghosting, noise and dot-crawl of the video.

34. (New) The method of claim 31, wherein performing enhanced image processing on the video with the at least one programmable processor comprises performing a first enhanced image processing operation on the video with a first processor of the at least one programmable processor, wherein the first enhanced image processing includes reduction of one of ghosting, noise, and dot-crawl of the video, and performing a second enhanced image processing operation on the video with a second processor of the at least one programmable processor, wherein the second enhanced image processing operation is different from the first enhanced image processing operation and includes reduction of one of ghosting, noise, and dot-crawl of the video.

35. (New) The method of claim 34, wherein performing enhanced image processing on the video with the at least one programmable processor further includes performing a third enhanced image processing operation on the video with a third programmable processor of the at least one programmable processor, the third enhanced image processing operation being different from the first and second enhanced image processing operations and including reduction of one of ghosting, noise, and dot-crawl of the video.

36. (New) A video display device comprising:
a memory;
a host processor coupled to the memory to determine whether the video display device is in a storage mode or in an image processing mode, wherein:
the storage mode is a mode in which the video is to be stored in a memory of the video display device and/or to be retrieved from the memory for display on

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a video display of the video display device, the host processor to determine that the device is in a storage mode in response to input from a user of the device to pause or remind video displayed on the video display, or to save video received by the device; and

the image processing mode is a mode in which the video is not to be stored in the memory and/or the video is not to be displayed on the video display from the memory;

an input/output interface coupled to the memory; and

a first programmable processor configured to have microcode downloaded therein to cause the first programmable processor to perform a first enhanced image processing operation on video if the host processor determines that a current mode of the video display device is the image processing mode, and wherein the first programmable processor is further configured to have microcode downloaded therein in response to the input from the user to cause the first programmable processor to store the video into the memory.

37. (New) The video display device of claim 36, wherein the first programmable processor is to perform a video compression operation to the video prior to storage of the video into the memory if the host processor determines that the current mode of the video display device is a storage mode.

38. (New) The video display device of claim 36, wherein the first enhanced image processing operation includes reduction of one of ghosting, noise, and dot-crawl of the video.

39. (New) The video display device of claim 38, further comprising:
a second programmable processor to perform a second enhanced image

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processing operation on the video if the current mode of the video display device is the image processing mode using output from the first programmable processor;

the second enhanced image processing operation being different from the first enhanced image processing operation and including reduction of one of ghosting, noise, and dot-crawl of the video.

40. (New) The video display device of claim 39, further comprising a third programmable processor to perform a third enhanced image processing operation on the video if the host processor determines that the current mode of the video display device is the image processing mode, the third enhanced image processing operation being different from the first and second enhanced image processing operations and including reduction of one of ghosting, noise, and dot-crawl of the video.

41. (New) A machine-readable medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising:

receiving video into a video display device;

placing the device in one of a storage mode or an image processing mode, wherein:

the storage mode is a mode in which the video is to be stored in a memory of the device and/or to be retrieved from the memory for display on a video display of the device, the device to be placed in a storage mode in response to an input from a user of the device to pause or rewind a video displayed on the video display, or to save the video;

placing the device in the storage mode includes downloading microcode into at least one programmable processor in response to the input from the user to cause the at least one programmable processor to store the video into the memory;

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the image processing mode is a mode in which the video is not to be stored in the memory and/or the video is not to be displayed on the video display from the memory;

placing the device in the image processing mode includes downloading microcode into the at least one programmable processor to cause the at least one programmable processor to perform enhanced image processing on the video, wherein the enhanced image processing operation includes reduction of one of ghosting, noise, and dot-crawl of the video.

42. (New) The machine-readable medium of claim 41, wherein the operations further comprise compressing, using the at least one programmable processor, the video prior to storing the video into the memory when the device is in the storage mode.
43. (New) The machine-readable medium of claim 41, wherein performing enhanced image processing on the video comprises performing a reduction of at least one of ghosting, noise and dot-crawl of the video.
44. (New) The machine-readable medium of claim 41, wherein performing enhanced image processing on the video with the at least one programmable processor comprises performing a first enhanced image processing operation on the video with a first processor of the at least one programmable processor, wherein the first enhanced image processing includes reduction of one of ghosting, noise, and dot-crawl of the video, and performing a second enhanced image processing operation on the video with a second processor of the at least one programmable processor, wherein the second enhanced image processing operation is different from the first enhanced image processing operation and includes reduction of one of ghosting, noise, and dot-crawl of the video.

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45. (New) The machine-readable medium of claim 44, wherein performing enhanced image processing on the video with the at least one programmable processor further includes performing a third enhanced image processing operation on the video with a third programmable processor of the at least one programmable processor, the third enhanced image processing operation being different from the first and second enhanced image processing operations and including reduction of one of ghosting, noise, and dot-crawl of the video.